TIPS MATH – MIDDLE GRADES

Student's Name:_____ Date: _____

TIPS: What Is My Pattern?

Dear Family Partner,
        In math, we are studying **PATTERNS**. I hope you enjoy this activity with me. The assignment is due _____ .

Sincerely,

_____

I. LOOK THIS OVER: Explain this example to your family partner.

Describe a pattern for this sequence of numbers. Use the pattern to write the next three numbers in the sequence. More than one pattern is possible.

4, 8, 12, 16, _20_ , _24_ , _28_

Sample description: Each number is 4 more than the previous/preceding number.

II. NOW, TRY THIS: Show your family partner how you do these examples.

Describe and complete each sequence. More than one pattern is possible for each sequence.

1) 128, 64, 32, 16, _____, _____, _____

2) 2, 3, 5, 8, _____, _____, _____, _____

III. PRACTICE SESSION: Complete these examples on your own. Show your work. Explain one example to your family partner.

Describe and complete the sequences.

1) 1, 3, 5, 7, _____, _____, _____

2) 60, 57, 53, 48, _____, _____, _____

3) y, □ , □ , □ , _____, _____, _____

4) 100, 81, 64, 49, _____, _____, _____

5) 2, 6, 18, 54, _____, _____, _____

6) A, C, E, G, _____, _____, _____

*** *CONTINUE YOUR WORK ON THE BACK OF THIS PAGE* ***

WORK SPACE FOR PRACTICE

Draw the next three patterns:

```
                              .
                 .          . . .        . . . .
        .       . .        . . .        . . . .
   .   . .     . . .      . . . .
```

Draw a model of four pictures in a sequence and have your family partner complete the next three pictures and describe the sequence.

ANSWER TO "NOW, TRY THIS":

1) 128, 64, 32, 16, _8_ , _4_ , _2_
    Each number is half the preceding number.

2) 2, 3, 5, 8, _13_ , _21_ , _34_ , _55_
    Add the two preceding numbers is a possible pattern

IV. HOME-TO-SCHOOL COMMUNICATION

Dear Family Partner,
        Please give me your reactions to your child's work on this activity. Write YES or NO for each statement.

_____ 1. My child understood the homework and was able to complete it.

_____ 2. My child and I enjoyed the activity.

_____ 3. This assignment helped me know what my child is learning in math.

Any other comments: _____

TIPS MATH – MIDDLE GRADES

Student's Name: _____ Date: _____

TIPS: Excuse Me!

Dear Family Partner,
    In math, we are studying the **ORDER OF OPERATIONS**. I hope you enjoy this activity with me. The assignment is due _____ .

                                        Sincerely,

                                        _____

I. LOOK THIS OVER: Explain this example to your family partner.

<u>P</u>lease <u>E</u>xcuse <u>M</u>y <u>D</u>ear <u>A</u>unt <u>S</u>ally

Remember: 1) Do the operations inside the <u>P</u>arentheses first.
          2) Simply all <u>E</u>xponents.
          3) Do <u>M</u>ultiplication and <u>D</u>ivision from left to right.
          4) Finally, do <u>A</u>ddition and <u>S</u>ubtraction from left to right.

$$5^2 - (3 \cdot 4)$$
$$5^2 - 1$$
$$25 - 1$$
$$13$$

II. NOW, TRY THIS: Show your family partner how you do these examples.

1) $5 + (4 + 2 \cdot 3)$

2) $6^2 - (7 + 9$

III. PRACTICE SESSION: Complete these examples on your own. Show your work. Explain one example to your family partner.

Follow the order of operations to simplify these expressions:

1) $2 \cdot (4 - 42)$

2) $(11 \cdot 7) + (90 \div 6$

3) $^2 + 8 \div$

*** *CONTINUE YOUR WORK ON THE BACK OF THIS PAGE* ***

WORK SPACE FOR PRACTICE

During a meal with a family partner, do the following:
   1) Square the number of pieces of meat.
   2) Add the number of ounces of your drink.
   3) Divide the number of side items (vegetables, potatoes, bread, etc.).
   4) Subtract the number of napkins you used.
Show your work. Illustrate your meal.

ANSWER TO "NOW, TRY THIS":

$$5 + (4 + 2 \cdot 3$$
$$5 + (4 + 6)$$
$$5 + 1$$
$$15$$

$$6^2 - (7 + 9)$$
$$6^2 - 1$$
$$36 - 1$$
$$23$$

IV. HOME-TO-SCHOOL COMMUNICATION

Dear Family Partner,
   Please give me your reactions to your child's work on this activity. Write YES or NO for each statement.

_____ 1. My child understood the homework and was able to complete it.

_____ 2. My child and I enjoyed the activity.

_____ 3. This assignment helped me know what my child is learning in math.

Any other comments: _____

TIPS MATH – MIDDLE GRADES

Student's Name:_____ Date: _____

TIPS: Val-U-Me!

Dear Family Partner,
    In math, we are **FINDING THE VALUE OF A VARIABLE**. I hope you enjoy this activity with me. The assignment is due _____ .

                          Sincerely,

                          _____

I. LOOK THIS OVER: Explain this example to your family partner.

Find the value of m.
$$4 \times m = 36$$
$$m = 9$$

1) Think of your multiplication facts: $4 \times \mathbf{9} = 36$

    OR

2) Use division: $\quad 4\,\overline{)\,36}^{\;9}$

II. NOW, TRY THIS: Show your family partner how you do these examples.

Find the value of the variables.

1) $s \times 10 = 80$

    $s = $ _____

2) $r \div 9 = $

    $r = $ _____

3) $1 - t = $

    $t = $ _____

III. PRACTICE SESSION: Complete these examples on your own. Show your work. Explain one example to your family partner.

1) Find the value of c.

    $53 - c = 36$

    $c = $ _____

*** *CONTINUE YOUR WORK ON THE BACK OF THIS PAGE* ***

2) Mrs. Gibson has four math classes with the same number of students in each class. She has a total of 92 students. Write the equation needed to find out how many students ar in each class and then solve the equation.

IN THE REAL WORLD...   Work with your family partner to do this.

Ask a family partner or two how tall they are. Using your height, figure out how much you would have to grow to be their height. (Or how much they would have to grow to b your height!) Write and solve an equation using variables to show the problem.

ANSWER TO "NOW, TRY THIS":

1) s = 8 because 80 ÷ 10 = 8

2) r = 63 because 7 x 9 = 63

3) t = 9 because 15 - 6 =

IV. HOME-TO-SCHOOL COMMUNICATION

Dear Family Partner,
    Please give me your reactions to your child's work on this activity. Write YES or NO for each statement.

_____ 1. My child understood the homework and was able to complete it.

_____ 2. My child and I enjoyed the activity.

_____ 3. This assignment helped me know what my child is learning in math.

Any other comments: _____

TIPS MATH – MIDDLE GRADES

Student's Name: _____ Date: _____

TIPS: Triple "O"!

Dear Family Partner,
      In math, we are studying the **ORDER OF OPERATIONS**. I hope you enjoy this activity with me. The assignment is due _____ .
                                       Sincerely,

                                    _____

I. LOOK THIS OVER: Explain this example to your family partner.

Remember: First, do all calculations within parentheses or brackets working from inside out.
             Second, do all calculations involving exponents.
             Third, multiply or divide in order, from left to right.
             Fourth, add or subtract in order, from left to right.

Evaluate: $5 + 2 \cdot$ $4 \cdot (7 - 1)^2$

          $5 + 6$ Multiply, then add. $4 \cdot (6^2$ Work within parentheses.

           11 $4 \cdot 36$ Work with exponents.

                                   144 Then multiply.

II. NOW, TRY THIS: Show your family partner how you do this example.

$$[9 + (7 - 3)] \cdot \quad^3$$

III. PRACTICE SESSION: Complete these examples on your own. Show your work. Explain one example to your family partner.

1) $1 - 5 \cdot$ 2) $6 \cdot [4 + 3$ 3) $(3 + 4^2$

*** *CONTINUE YOUR WORK ON THE BACK OF THIS PAGE* ***

4) Use your calculator to evaluate this expression: 7 + 3 •
   Does your calculator follow the rules for order of oper ations? Explain how you know.

5) Insert one pair of parentheses to make the following expression true. Show your work.

$$14 - \quad - 2 \cdot 2 = 14$$

IN THE REAL WORLD...   Work with your family partner to do this.

Marcus earns $6 per hour. On Friday he works for 4 hours and on Saturday he works for 7 hours.
Each day he spends $3 for dinn r. Write an expression for his earnings after he pays for two dinners.
Find his earnings for the two days, showing your work.

ANSWER TO "NOW, TRY THIS":

$$[\,9 + (\,7 - 3\,)\,] \cdot \quad {}^{3}$$

$[\,9 + 4\,] \cdot 4^{\,3}$	Work within inner parentheses.
$13 \cdot \quad {}^{3}$	Work within brackets.
$13 \cdot 6$	Work with exponents.
832	Multiply.

IV. HOME-TO-SCHOOL COMMUNICATION

Dear Family Partner,
        Please give me your reactions to your child's work on this activity. Write YES or
NO for each statement.

_____ 1. My child understood the homework and was able to complete it.

_____ 2. My child and I enjoyed the activity.

_____ 3. This assignment helped me know what my child is learning in math.

Any other comments: _____

TIPS MATH – MIDDLE GRADES

Student's Name: _____ Date: _____

TIPS: Aliens Invade Math!

Dear Family Partner,
     In math, we are studying the **ORDER OF OPERATIONS**. I hope you enjoy this activity with me. The assignment is due _____ .
                           Sincerely,

                           _____

I. LOOK THIS OVER: Explain this example to your family partner.

In mathematics, problems have to be worked in a particular order or they will produce different answers. For example, $4 + 6 \div 2$ is not the same as $4 + 6 \div 2$ as you can see from the results.

               $10 \div 2$ $4 + 3$
                  5   7

The rules are called the Order of Operations. These can be found on page _____ of your textbook. The correct problem is th second one, because division needs to be done before addition

II. NOW, TRY THIS: Show your family partner how to do these problems.

a) $5 + 8 \div$ b) $4 \cdot 3 + (10 \div 2 \quad ^2$

III. PRACTICE SECTION: Complete these examples on your on. Show

a) $3^2 + 12 \div 3 - 6$ b) $(2 + 1)^2 \cdot -1 \cdot$ c) $(5 - 2)^2 - (6 \div 3)^3$

Now read this story and match it with the steps of problem b. You and your family partner decide how the Order of Operations matches the story.

One day Muffy and Buffy were walking in the park. Tuffy joined them. The group mul i-plied itself in number when Moe, Larry, Curly, Huey, Dewey, and Louie met them on the path. Su d-denly all nine of them were startled by an alien who made them negativ — they had to walk back-ward! All of a sudden a lightening bolt doubled them. The alien disappeared and all eighteen kid walked home backward. It was a strange day!

LET'S FIND OUT...   Work with your family partner to do this.

On another sheet of paper…
Make up an Order of Operations problem and work it out showing your steps. Ask your family partner to help you make up a story that illustrates your problem. Be creative! (It doesn't have to be complicated!)

ANSWER TO "NOW, TRY THIS":

a) $5 + 8 \div$
   $5 + 2$
   7

b) $4 \cdot 3 + (10 \div 2)^2$
   $4 \cdot 3 + 5^2$
   $4 \cdot 3 + 25$
   $12 + 25$
   37

IV. HOME-TO-SCHOOL COMMUNICATION

Dear Family Partner,

Please give me your reactions to your child's work on this activity. Write YES or NO for each statement.

_____ 1. My child understood the homework and was able to complete it.

_____ 2. My child and I enjoyed the activity.

_____ 3. This assignment helped me know what my child is learning in math.

Any other comments: _____